

**ILLINOIS DEPARTMENT OF  
PUBLIC HEALTH***A Healthier Today For A Better Tomorrow*

John R. Lumpkin, M.D., Director

US EPA RECORDS CENTER REGION 5



448876

CASE NO: 812289001H

April 18, 1991

Michael Rowder  
Chicago Housing Authority  
17 E. Monroe, Suite 201, 2nd Floor  
Chicago, IL 60603

Dear Ms. Rowder:

This letter is in response to a request from Mike Orloff of the Illinois Environmental Protection Agency (IEPA) regarding a preliminary health evaluation of soil contamination in the proximity of 13116 S. Ellis Street, Chicago, Illinois (IEPA samples X103 and X104). These samples were part of an IEPA sampling program to assess soil contamination in the general area of the old Pullman Sewage Lagoon located near 130th Street and Indiana Avenue, Chicago. Juan Thomas and Frank Vaughan met on February 21, 1991, with Michael Rowder and Nestor Ardiente of the Chicago Housing Authority and Mike Orloff at 17 E. Monroe. They also met with Hazel Johnson and other concerned citizens at 13116 South Ellis Street, Chicago concerning possible health effects, specifically reported rashes on children living in the area.

Compounds tested for included: (1) volatile organic compounds, (2) pesticides, (3) semivolatile organic compounds, and (4) inorganics. Samples were collected in the area of the aforementioned location and submitted for analysis to an IEPA laboratory for priority pollutant analysis. Sample X103 was taken at the surface (0-6" depth), and X104 was taken at 5-6ft depth at the same location.

Based on the compounds found, the levels detected, the physicochemical properties of these compounds, and their known toxicities, we feel it unlikely that they pose any acute health threat or any significant chronic health risk. Levels detected for each of the four groups are discussed for X103. The concentrations of compounds found for sample X104 were much less than X103, and will not be discussed further. Laboratory findings for the two samples are attached.

**1. Volatile organic compounds -**

Concentrations were all very low: maximum of 14 parts per billion for 2-butanone and 20 parts per billion for acetone. It is unlikely that any adverse health effects would result from this group of compounds detected at the site.

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## 2. Pesticides -

Levels of DDT and two congeners (DDD and DDE) were found at levels about 20 times higher than background levels found in suburban or urban soil samples as recorded in the 1970s. These levels may be the result of the natural tendency for sewage sludge basins to accumulate higher levels of persistent organic contaminants from surface soil run-off.

While higher than expected, the levels are not high enough to elicit concern for health. The low levels (less than 2 parts per million for the three congeners combined), the strong tendency of these compounds to adsorb to soil, and the poor skin absorption potential of DDT and its congeners result in limited exposure potential. Therefore, this is of little or no concern for chronic health risks. DDT and its analogues are also not known to cause skin rashes or other dermatological problems.

## 3. Semi-volatile organic compounds -

Compounds of potential concern in this category are largely confined to the class known as polycyclic aromatic hydrocarbons (PAHs). PAHs are a normal product of incomplete combustion and as such are associated with sources ranging from industrial smokestacks, auto exhaust, wood or coal stoves, cigarette smoke, or charcoal-broiled meats. They are known to act synergistically at high concentrations with some other organic compounds.

The level of the aggregate of these compounds found at site X103 are generally consistent with normal levels found in urban soils, with slightly elevated concentrations found for chrysene and benzo-a-pyrene and elevated levels for phenanthrene (with respect to rural or agricultural soil). However, their low total concentration (6-7 parts per million for the aggregate), and the fact that they also adsorb to the organic carbon in soil, resulting in reduced bioavailability, indicates that there is not likely to be a health concern in the short or long term.

Bis (2-ethylhexyl) phthalate (BEHP) was also detected. The concentration of BEHP found was near the upper range of that found for an industrial dump and the vicinity of a BEHP factory. Animal data indicate, however, that it is poorly absorbed by the skin. In addition, it is strongly bound to soil. Oral toxicity was observed in animals only at levels much higher than observed at site X103. Therefore, health effects from this chemical are unlikely at site X103.

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## 4. Inorganics -

The soil was analyzed for the presence of twenty-three inorganic compounds, including heavy metals. All were found to be within concentration ranges reported for soils in general except for cadmium. Cadmium levels were elevated with respect to the United States, but were within the normal range for Illinois soils. It is unlikely that these residues are a health concern in the short or long term.

In conclusion, the levels of pollutants found at site X103 and X104 are unlikely to cause short or long-term health effects, including rashes or skin complaints in potentially-exposed individuals. However, pursuant to the information obtained at the citizens group meeting, we cannot conclude that the level of pollutants found at this site are representative of the level of pollutants that would be found in the children's playground area. This playground area (on both sides of South Evans Avenue between 130th and 131st Streets) is 850-1100 feet from the nearest IEPA sampling site.

We recommend that a physician be consulted with the aim of determining what factors, environmental or otherwise, may be causing the rashes. IDPH department staff will continue to investigate factors that may be causing reported health effects in this area.

We are prepared to work with the Housing Authority, the IEPA, and concerned citizens to resolve outstanding questions or concerns. Please feel free to contact me or Dr. Vaughan at 708-544-5300 if we can be of further assistance. Thank you for your patience and interest in this matter.

Sincerely,

*Paul Levin*  
Paul Levin Ph.D., P.E.  
Regional Engineer

FV:lb

CC:DOEH

:Hazel Johnson

:Keith Harley, South Chicago Legal Clinic, Inc.

:Mike Orloff, IEPA

:Frank Garner, Chicago Public Schools